

Unit 6A: Day 9 and 10: Giving and Following Mapping Directions

Focus Question: *What do mapping directions tell me?*

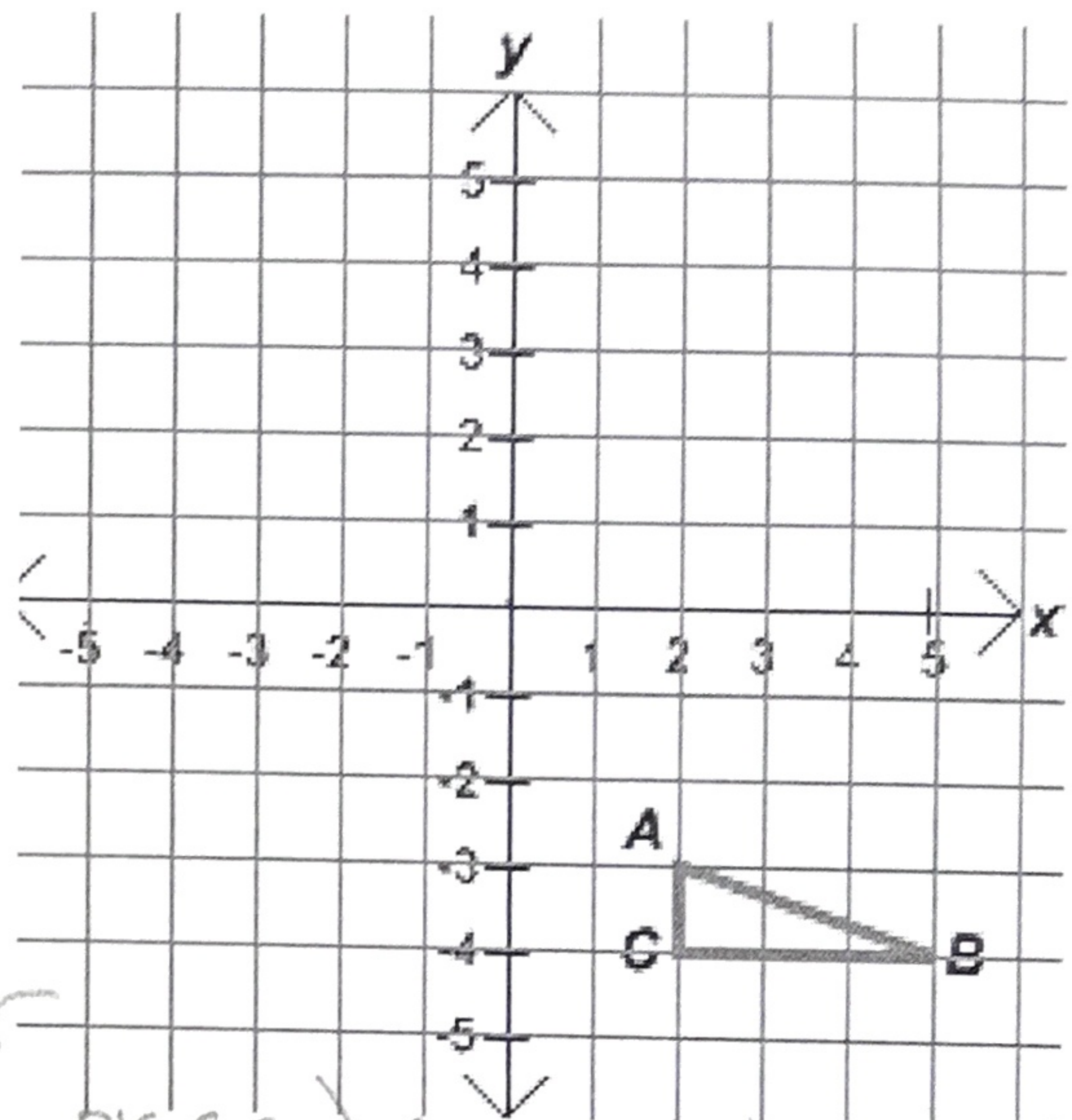
Same size, same shape

A. Congruent figures can be made to **coincide** (or *be in the same place*) by mapping one figure onto the other. **Mapping means giving directions to move one of the figures.** Follow the mapping directions below using the figure. When you have completed your picture, check it with your teacher's secret picture.

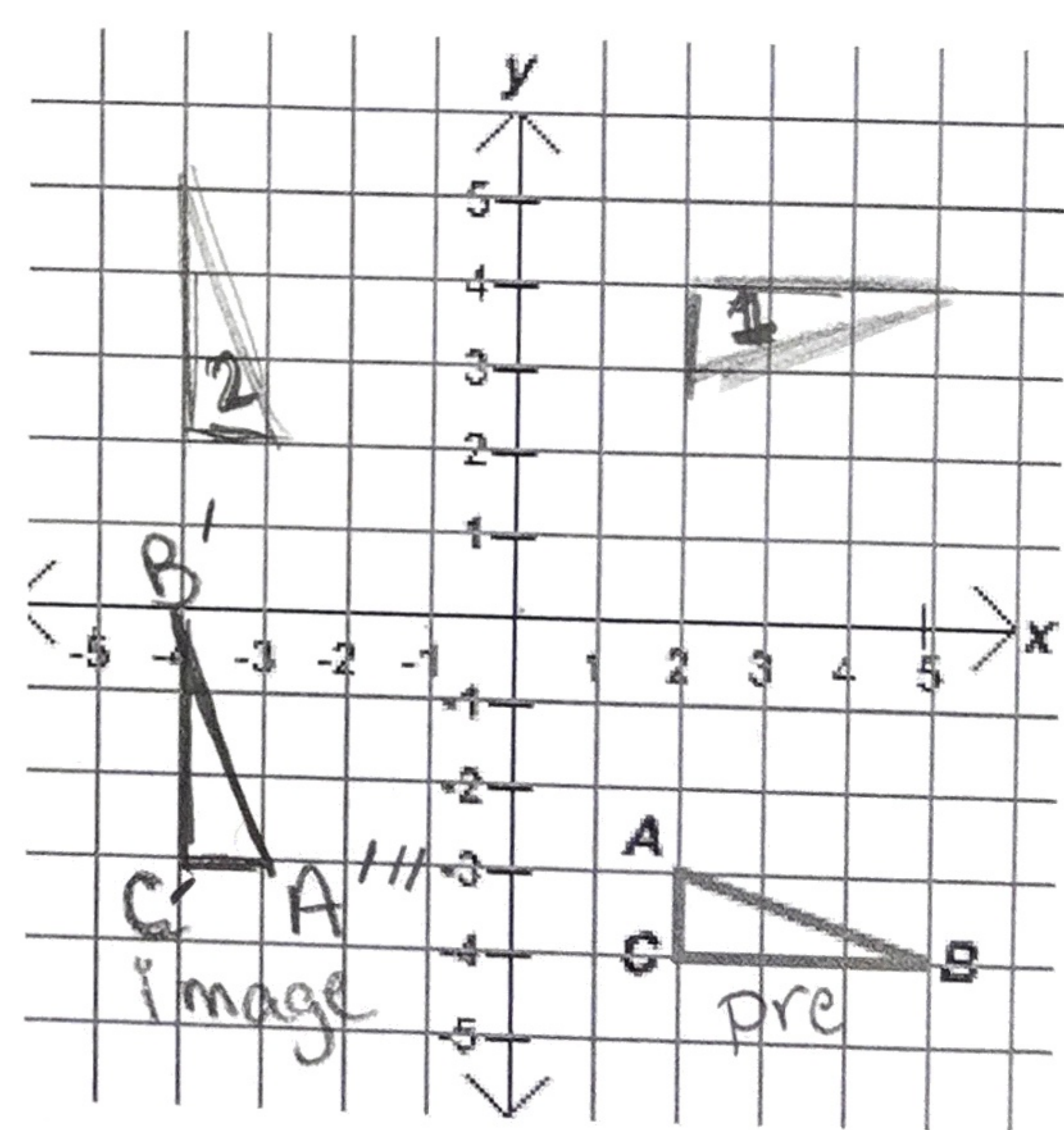
- Step 1) Take pre-image ABC and reflect it
- Step 2) Using the reflected image, rotate it 90°.
- Step 3) Finally, take the rotated image and translate it down.

1. Did your picture match your teacher's? *No!*
2. Were these mapping directions good or bad? *bad*
3. What could be done to improve these mapping directions.

- *Tell what axis to reflect over*
 - *Tell which direction to rotate (cl. or cc.) around the origin*
 - *Tell how many spaces to translate*
- Let's see if we can do better...



- Step 1) Reflect ABC over the x axis.
- Step 2) Next, rotate your reflection 90° counterclockwise around the origin.
- Step 3) Finally, take the rotated image and translate it down 5 units.



B. Practice following directions

Using the directions below, show what each step would look like. Your final image should end up coinciding with a triangle.

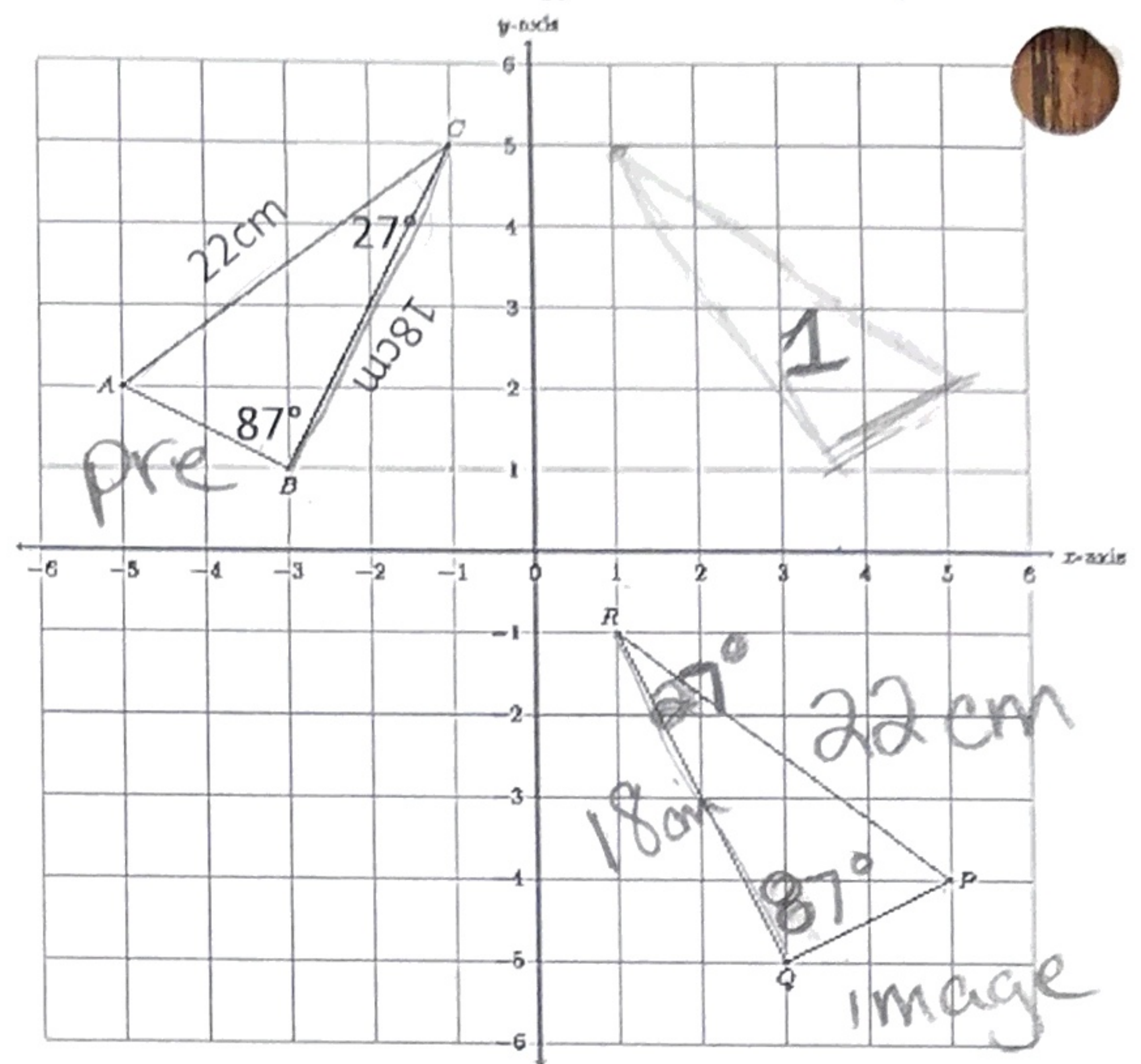
1. Triangle ABC is the pre-image.

Step 1) Reflect triangle ABC over the y-axis.

Step 2) Translate the reflected image down 6 units.

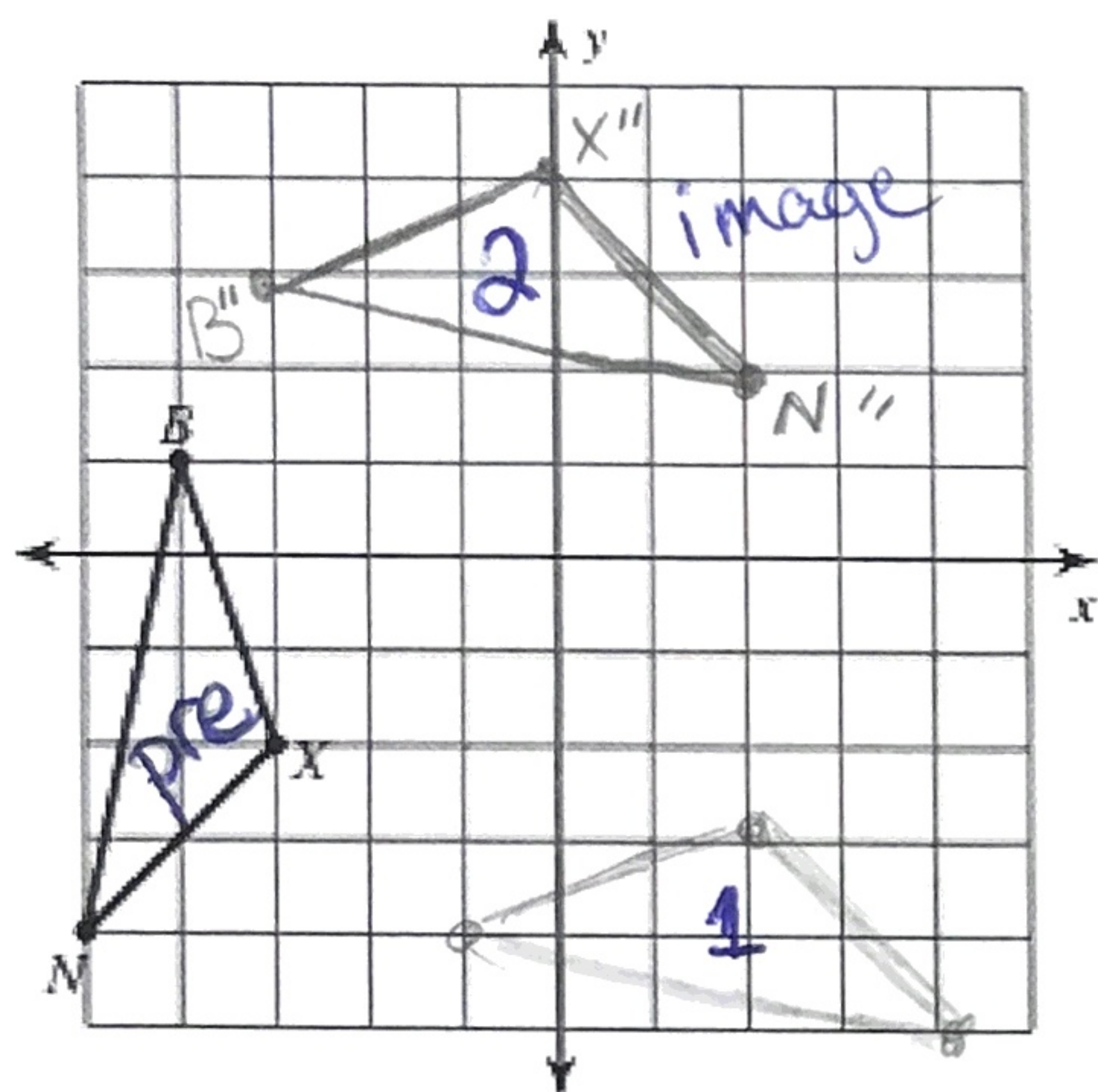
You should coincide with triangle PQR.

Label its side lengths and angle measures.



2. For the picture, follow the given steps. Drawing each intermediate step is encouraged!

Then have the teacher determine if you followed them correctly.

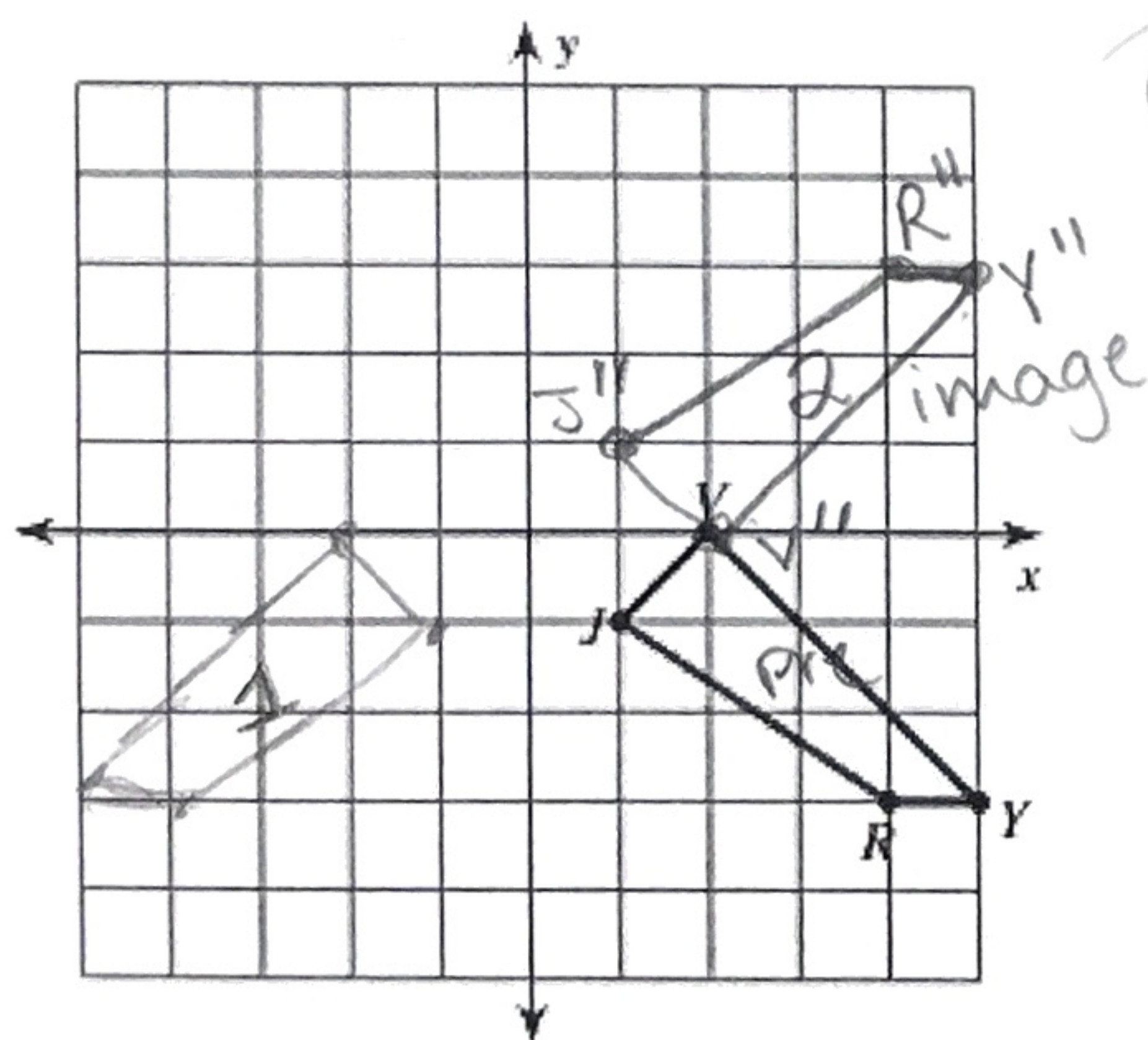


Triangle BXN is the pre-image

Step 1) Rotate the triangle 90° counter-clockwise around the origin

Step 2) Translate the image left 2 units and up 7 units

Label the image with correct prime notation.



3. Start at pre-image VYRJ

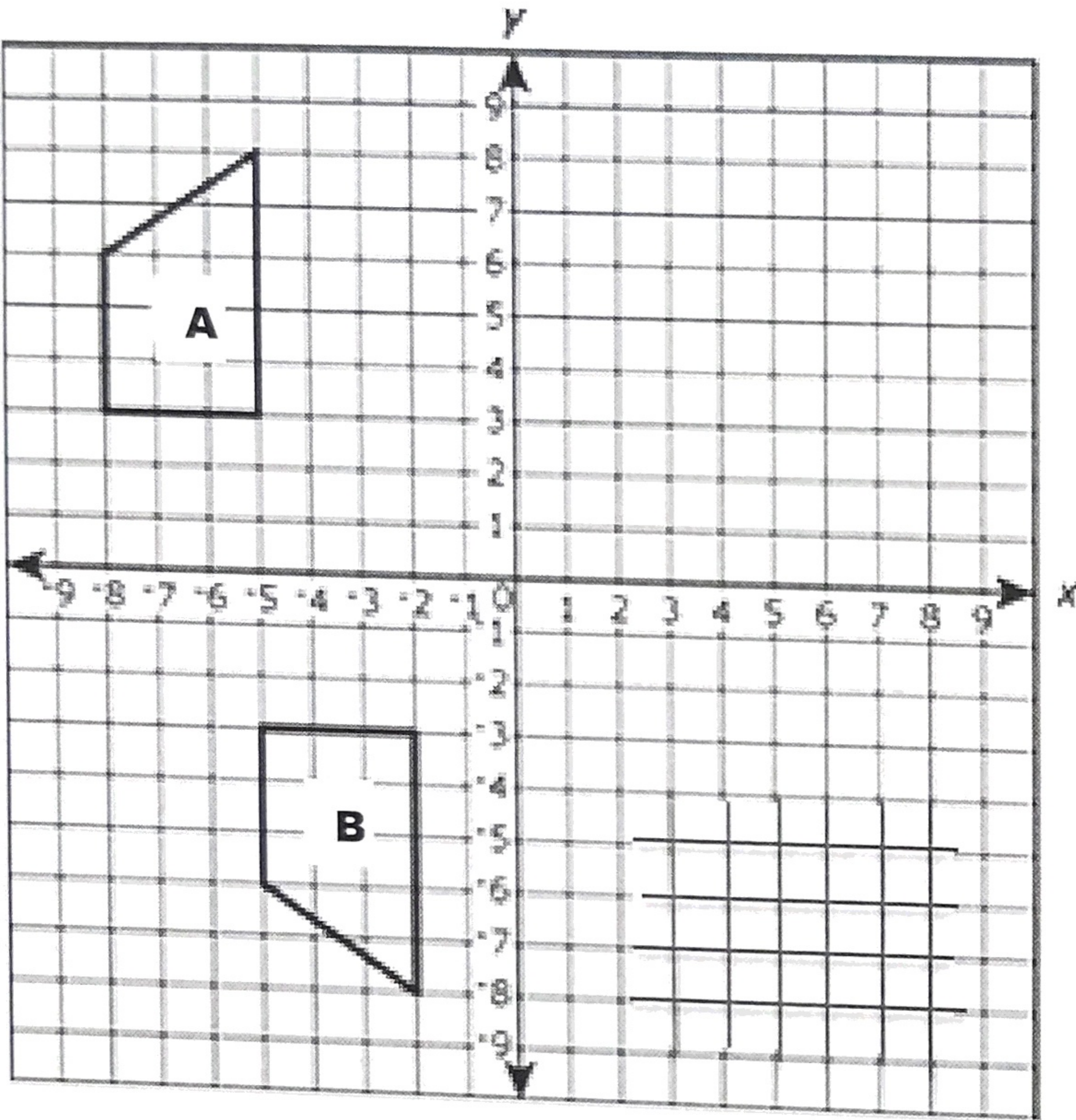
Step 1) Reflect it over the y-axis

Step 2) Rotate the resulting image 180° around the origin.

Label the image with correct prime notation.

C. Practice Giving Directions

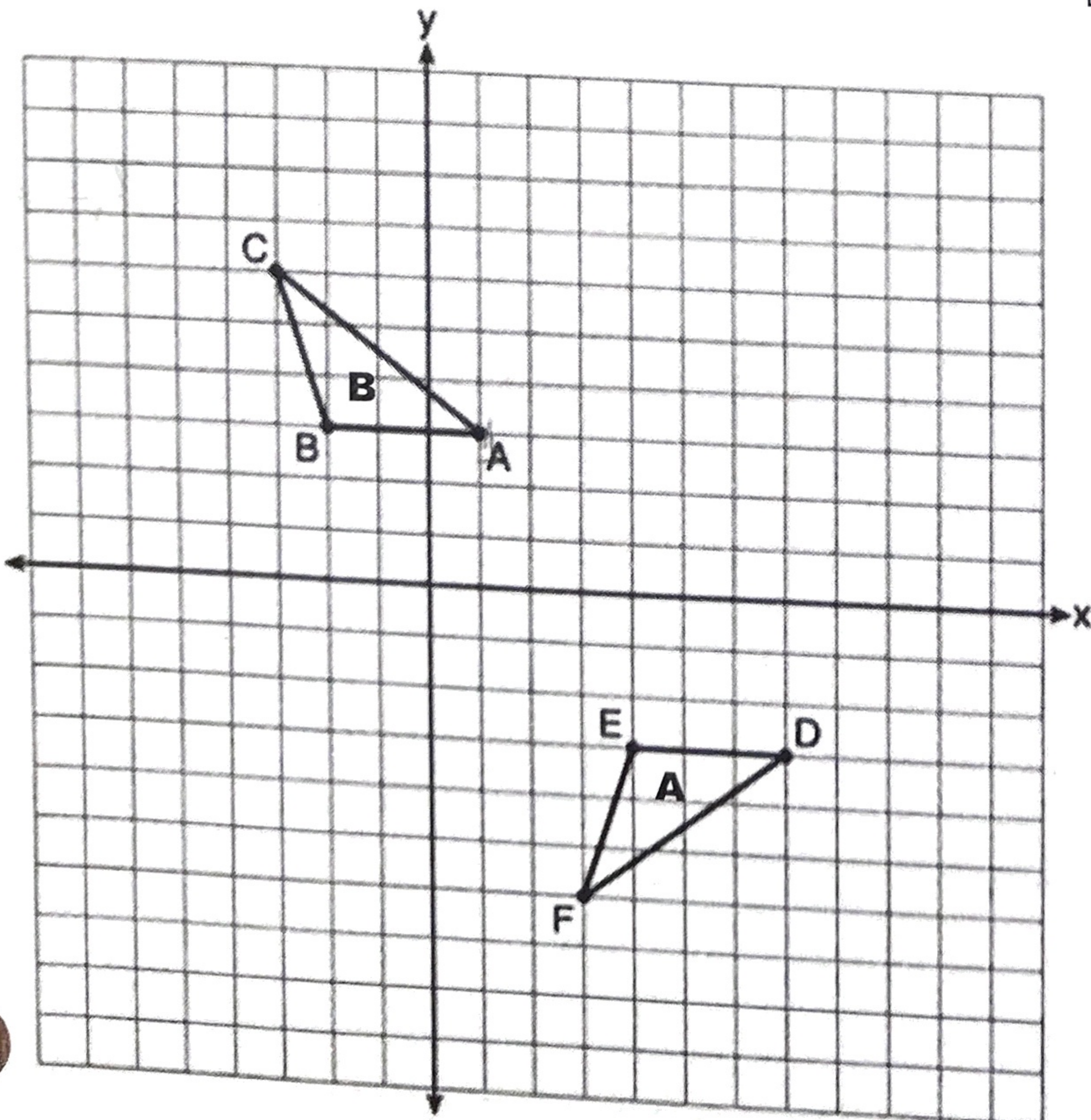
For each picture below, describe a sequence of transformation that shows that polygon A is congruent to polygon B.



Directions: Start at A

- ①
- ②
- ⋮

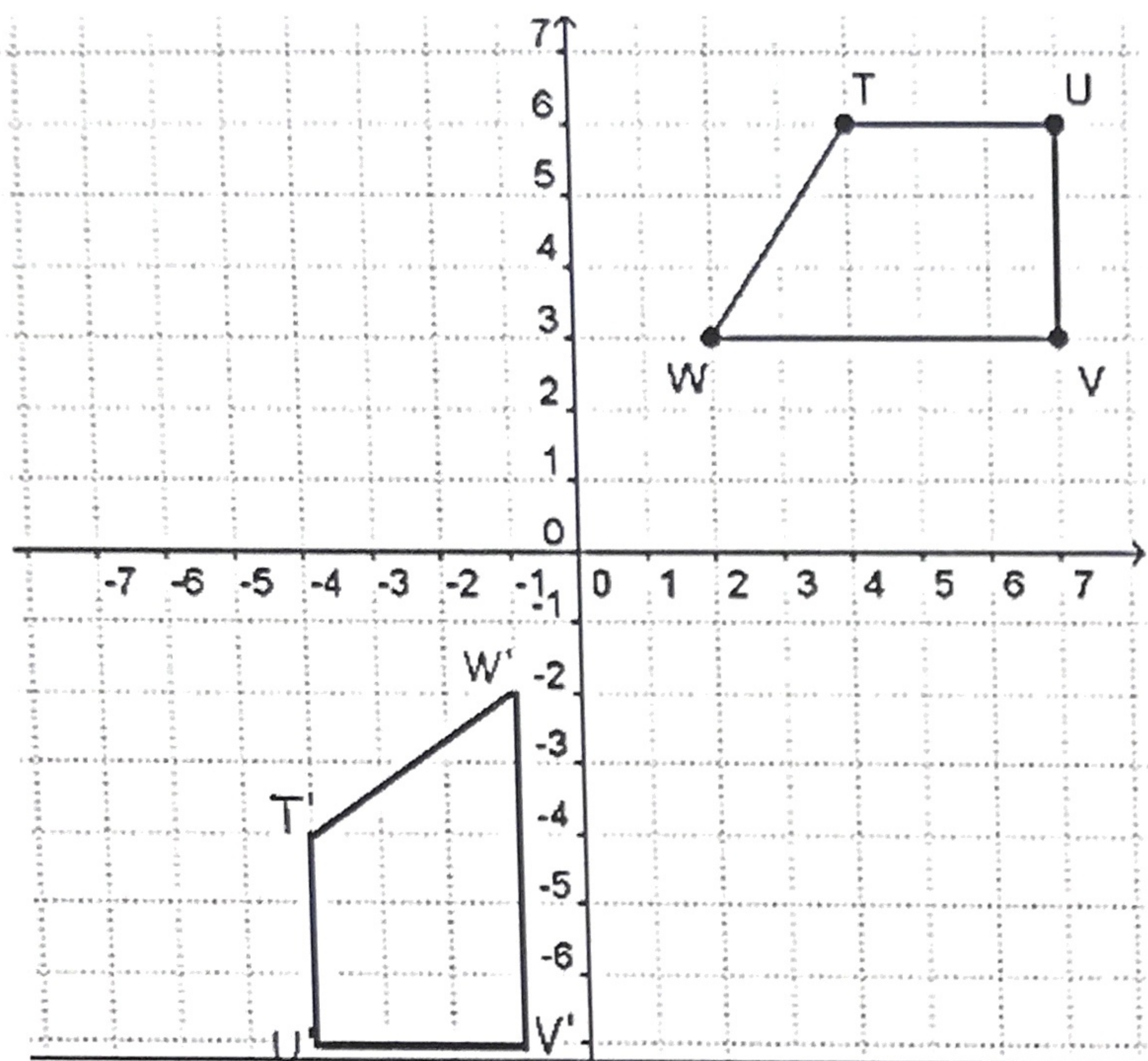
Have a partner try to follow your directions. Make any corrections if needed.



Directions:

Have a partner try to follow your directions. Make any corrections if needed.

Figure out which one is the pre-image!!!!



Directions:

Have a partner try to follow your directions. Make any corrections if needed.